

LISTING OF CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (original) A sensing apparatus, including:
 - at least one sensor cell configured to produce a sensor current indicative of a sensed value; and
 - a readout circuit having an input node coupled to receive the sensor current, wherein the readout circuit also includes:
 - an output node; and
 - output voltage generation circuitry between the input node and the output node, wherein the output voltage generation circuitry is configured to generate an output voltage indicative of the sensed value in response to the sensor current while clamping the input node at a potential that is at least substantially fixed.
2. (original) The sensing apparatus of claim 1, wherein the output voltage generation circuitry includes:
 - at least one circuit element; and
 - a differential pair coupled and configured to provide feedback to the at least one circuit element to reduce voltage excursion at the input node during generation of the output voltage.
3. (original) The sensing apparatus of claim 2, wherein the at least one circuit element is a load transistor coupled to the differential pair.
4. (original) The sensing apparatus of claim 1, wherein the output voltage generation circuitry includes:
 - an op amp having an input coupled to the input node and an output; and
 - at least one circuit element coupled between the output of the op amp and the input node and configured to provide feedback from output of the op amp to the input node.

5. (original) The sensing apparatus of claim 4, wherein the input of the op amp is an inverting input, the op amp also has a noninverting input, and the at least one circuit element is a resistor coupled between the inverting input and the output of the op amp.

6. (original) The sensing apparatus of claim 4, wherein the input of the op amp is an inverting input, the op amp also has a noninverting input, and the at least one circuit element is a transistor having a channel terminal coupled to the inverting input and a gate coupled to the output of the op amp.

7. (original) The sensing apparatus of claim 1, also including:

a sensor cell; and

a column line, wherein the input node is coupled by the column line to the sensor cell, and wherein the output voltage generation circuitry also includes:

a readout capacitor coupled to the output node, and the output voltage generation circuitry is configured to charge the readout capacitor to a voltage indicative of the sensed value while clamping the input node at a potential that is at least substantially fixed.

8-53. (canceled)

54. (original) A method for reading out a sensor cell, comprising the steps of:

(a) asserting a sensor current, indicative of a sensed value, from the sensor cell to an input node of a readout circuit; and

(b) operating the readout circuit in response to the sensor current to generate an output voltage indicative of the sensed value while clamping the input node at a potential that is at least substantially fixed.

55. (original) The method of claim 54, wherein step (b) also includes the step of charging a capacitor to a voltage indicative of the sensed value.

56. (original) The method of claim 54, wherein step (b) includes the step of:

operating a differential pair to assert the output voltage to an output node coupled to a capacitor while providing feedback from the output node via at least one circuit element to the input node.

57. (original) The method of claim 56, wherein step (b) includes the step of:
operating the differential pair to assert the output voltage to the output node while
providing feedback from the output node via a load transistor to the input node.

58. (original) The method of claim 54, wherein step (b) includes the step of:
operating an op amp to assert the output voltage to an output node of the op amp
while providing feedback from the output node of the op amp to the input node, wherein the
output node of the op amp is coupled to a capacitor.

59. (original) The method of claim 54, wherein step (b) includes the steps of:
generating a mirrored current in response to the sensor current;
converting the mirrored current to a charging voltage; and
charging a capacitor to the output voltage in response to the charging voltage.

60. (original) The method of claim 54, wherein the mirrored current is not identical to
the sensor current.

61. (original) The method of claim 60, wherein the mirrored current is greater than the
sensor current.

62-65. (canceled)